

What is claimed is:

1. A developing method for electrophotographic image for developing an electrophotographic image by use of a developing device comprising a developing mechanism having a developer carrier for carrying a developer along a preset circulating route including a developing area and a developer restricting element for restricting the developer on the developer carrier, and a developer supply mechanism having storing means for the developer, 5 wherein said developing method comprises the steps of:
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using a start-up developer at an initial state of use of the developing mechanism; and

15 using a replenishing developer differed in grain size or grain size distribution from the start-up developer after an end of the initial state of use of the developing mechanism.

2. The developing method for electrophotographic image according to claim 1, wherein, when number percentage of a fine powder component of $5\mu\text{m}$ or less in the start-up developer is N_{du} and number percentage of a fine powder component of $5 \mu\text{m}$ or less in the replenishing developer is N_{tc} , the grain size distributions of the start-up developer and replenishing developer satisfy the following relational expressions:
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25 $N_{du} \leq 20.0\%$, and $20.0\% < N_{tc} \leq 25.0\%$

3. The developing method for photographic image according to claim 1, wherein when volume percentage of a fine powder component of $5\mu\text{m}$ or less in the start-up developer is V_{du} and volume percentage of a fine powder component of $5\mu\text{m}$ or less in the replenishing developer is V_{tc} , the grain size distributions of the start-up developer and replenishing developer satisfy the following relational expressions:
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$V_{du} \leq 2.0\%$ and $2.0\% < V_{tc} \leq 5.0\%$.

35 4. The developing method for electrophotographic

image according to claim 1, wherein, when a volume average grain size of the start-up developer is DVdu and a volume average grain size of the replenishing developer DVtc, the volume average grain sizes of the start-up developer and replenishing developer satisfy the following relational expressions:

$$0.3 \mu\text{m} \leq DVdu - DVtc \leq 1.2 \mu\text{m}, \text{ and } 7.5 \mu\text{m} \leq DVtc \leq 8.5 \mu\text{m}.$$

5 5. The developing method for electrophotographic image according to any one of claims 1 to 4 wherein, when a CV value shown by the volume average grain size of the start-up developer is CVdu and a CV value shown by the volume average grain size of the replenishing developer is CVtc, the CV values of the start-up developer and replenishing developer satisfy the following relational expression:

$$CVdu \leq CVtc.$$

10 6. The developing method for electrophotographic image according to claim 1, wherein the developer is a nonmagnetic one-component developer, and the developing method is applied to a nonmagnetic one-component image developing device.

15 7. A developing device for electrophotographic image comprising a developing mechanism having a developer carrier for carrying a developer along a preset circulating route including a developing area and a developer restricting element for restricting the developer on the developer carrier, and a developer supply mechanism having storing means for storing the developer, wherein the storing means is filled with a start-up developer in the vicinity of the developer carrier and a replenishing developer remoter than the start-up developer from the developer carrier, and both of the start-up developer and the replenishing developer have different grain sizes or grain size distributions.

20 8. The developing device for electrophotographic

image according to claim 7 wherein the storing means comprises:

5 a developer storing part filled with the start-up developer at least in the vicinity of the developer carrier; and

10 a replenishing developer cartridge part filled with the replenishing developer and provided separably from the developer storage part, which successively replenishes the replenishing developer to the developer storage part.

15 9. A printing device comprising an optical writing system for exposing a photosensitive drum to obtain a latent image, at least one developing device for visualizing the latent image on the photosensitive drum, a transfer unit for transferring the image visualized on the photosensitive drum to a sheet, and a fixing unit for fixing the image transferred to the sheet, wherein:

20 the developing device comprises a developing mechanism having a developer carrier for carrying a developer along a preset circulating route including a developing area and a developer restricting element for restricting the developer on the developer carrier, and a developer supply mechanism having storing means for storing the developer; and

25 the storing means is filled with a start-up developer in the vicinity of the developer carrier and a replenishing developer remoter than the start-up developer from the developer carrier, and both of the start-up developer and the replenishing developer have different grain sizes or grain size distributions.

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